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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,892	07/12/2001	Bernard R. Cheo	1095-2	2012

7590 02/06/2003  
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EXAMINER
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LEE, BENNY T

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 02/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



## Patent and Trademark Office

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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.

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DATE MAILED:

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

This application has been examined  Responsive to communication filed on \_\_\_\_\_  This action is made final.shortened statutory period for response to this action is set to expire Three (3) month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

## Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1.  Notice of References Cited by Examiner, PTO-892. 2.  Notice re Patent Drawing, PTO-948.  
 3.  Notice of Art Cited by Applicant, PTO-1449 4.  Notice of Informal Patent Application, Form PTO-152  
 5.  Information on How to Effect Drawing Changes, PTO-1474 6.  \_\_\_\_\_

## Part II SUMMARY OF ACTION

1.  Claims 1-12 are pending in the application.  
 Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2.  Claims \_\_\_\_\_ have been cancelled.

3.  Claims \_\_\_\_\_ are allowed.

4.  Claims 1-7; 8; 9, 10; 11, 12 are rejected.

5.  Claims \_\_\_\_\_ are objected to.

6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.

7.  This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.

8.  Allowable subject matter having been indicated, formal drawings are required in response to this Office action.

9.  The corrected or substitute drawings have been received on \_\_\_\_\_. These drawings are  acceptable;  
 not acceptable (see explanation).

10.  The  proposed drawing correction and/or the  proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_ has (have) been  approved by the examiner.  disapproved by the examiner (see explanation).

11.  The proposed drawing correction, filed \_\_\_\_\_, has been  approved.  disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.

12.  Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received  
 been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13.  Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.O. 11; 453 O.G. 213.

14.  Other

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## EXAMINER'S ACTION

SN 903892

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The disclosure is objected to because of the following informalities: Page 3, line 1, note that --from the DC power supply-- should follow "current" for clarity of description. Page 5, line 11, note that the acronym "CNC" should be strictly defined for clarity. Page 7, line 22, note that "Each" should be rewritten as --Returning to Fig. 1, each -- for clarity of description. Page 8, line 14, should figure "1" correctly be figure --2-- for a proper characterization and --(Fig. 2)-- should follow "620" for clarity"; line 17, note that --(Fig. 4C)-- should follow "18x" for clarity. Page 9, line 1, note that --as shown in Fig 1-- should follow "10" and should reference to "Fig 4c" correctly refer to --Fig. 1--?; lines 5, 6, note that "62a, b" and "18x, y" should be rewritten as -- 62a, 62b-- and --18x, 18y--, respectively. Note that "Fig 4B" need to have the features therein explicitly described. In figs 2, 4A, 4C, note that reference labels therein should reference the particular drawing figures in which they actually appear.

Appropriate correction is required.

The drawings are objected to because of the following: In figs. 1, 4A, 4B, 4C, note that reference labels (70b, 72b, g) need to be labeled therewith: In fig. 4C, reference labels (55a, 60a, 62a, 64a, 66a, 68a) need to be labeled therein. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claims 1-7; 8; 9; 10; 11, 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claims ~~1, 8, 9, 12~~, note the recitation of "coupling an RF field in the output cavity to the output leads" appears to be a misleading description. Note from the specification description that it is the output leads which --excite-- an RF field in the output cavity rather than the coupling of any existing RF field in the output cavity to the output leads. Clarification is needed.

In claims 9, 11, note that the functional recitation "coupling generating" appears awkwardly worded and hence vague in meaning. Clarification is needed.

The following claims have been found objectionable for reasons set forth below:

In claims ~~1, 8, 9, 11~~, note that "an input---" and "an output..." should be rephrased as --a respective input..." and -- a respective output ... for a proper characterization.

In claim ~~1~~, note that "conductors each configured" should be rephrased as --conductors. each conductor configured -- at each occurrence for clarity of description.

In claim ~~4~~, note that "constructed from" should be rephrased as --comprised of -- for clarity of description.

In claims ~~5, 7~~, note that --respective-- should precede "plunger assembly" for a proper characterization.

In claim ~~5~~, note that --corresponding -- should precede "plunger configured" for clarity of description.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

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art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4; 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al.

Saito (Fig. 8) discloses an active radio frequency cavity amplifier comprising a cavity resonator divider (d) which divides an input signal (IN<sub>3</sub>) to plural input signals which are coupled along input lines (81, 82, ... 87, 88) to the inputs of MIC amplifier modules (AMP<sub>11</sub>, AMP<sub>12</sub>..., AMP<sub>17</sub>, AMP<sub>18</sub>) for amplification therein. The amplified signals are outputted from the amplifiers and are coupled by output lines (91, 92,...97, 98) to a combiner cavity resonator (C) to be outputted as a combined signal (OUT<sub>3</sub>). Note that the amplifiers may be connected to the waveguides (6) of the combiner/divider cavity structures (see col 6, l. 64 to col 7, l. 7). Saito differs from the claimed invention in that the MIC amplifiers do not explicitly comprise transistors.

However, as disclosed in the background art, use of transistors e.g. (FETS) for the plural channel dividing/combining types of amplifiers are deemed conventional in the art.

Therefore, it would have been obvious to have realized the MIC amplifiers of Saito et al (fig. 8) as FET amplifiers in view of the conventional nature of such amplifiers in a dividing/combining amplifier, thereby suggesting the obviousness of such a modification.

Claims 5, 6; 8; 10; 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al in view of Kaneko et al ('494).

Saito et al discloses input (or dividing) and output (or combining) cavities which are of the two section type (e.g. see fig. 4) but lack cavity tuning means.

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Kaneko et al ('494) also discloses a two section cavity resonator for dividing/combining amplified signals which includes tuning plunger means (21) as shown in Figs. 8, 9.

Accordingly, it would have been obvious in view of the references, taken as a whole, to have further modified the two section divider/combiner cavity resonators of Saito et al to have included a tuning plunger assembly as taught by Kaneko et al. Such a modification would have been considered obvious since it would have provided the advantageous benefit of tuning a two section cavity resonators, such as in Saito et al, and as such would have suggested the obviousness of such a modification.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakada and Saito disclose plural parallel amplifiers coupled to input/output cavity resonators. Myer pertains to tuning of input/output cavity resonators used with plural amplifiers.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (703) 308-4902

*Benny Lee*  
BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817

B LEE/pj

01/31/03